

REMARKS

Interview With The Examiner

The Applicants' representative would like to thank the Examiner for the courtesy of an Examiner's Interview, which was conducted on September 13, 2004. The primary topic of discussion during the interview was the term "discontinued" as that term is found and used in claim 1. After discussing the invention, while Applicants believe that "discontinued" accurately describes the concept, it is acknowledged that the examiner preferred the term "non-sequential" to describe the scanning order of the fields. To that end, in order to expedite the prosecution of this case, and without disclaimer or prejudice, claims 1 and 3 have been amended to substitute the term "non-sequential" in place of "discontinued."

Status Of Application

Claims 1-13 are pending in the application; the status of the claims is as follows:

Claims 1 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,184,853 B1 to Hebiguchi et al. ("Hebiguchi") taken with U.S. Patent No. 6,229,515 B1 to Itoh et al. ("Itoh").

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of U.S. Patent No. 6,501,454 B1 to Ozawa et al. ("Ozawa").

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of U.S. Patent No. 5,111,297 to Tsuji et al. ("Tsuji").

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Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of U.S. Patent No. 5,526,014 to Shiba et al. ("Shiba").

Claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of U.S. Patent No. 5,091,557 to Nagai et al. ("Nagai").

Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of U.S. Patent No. 6,243,061 B1 to Sandoe et al. ("Sandoe").

Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of U.S. Patent No. 6,008,787 to Kondoh ("Kondoh").

Claims 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Nagai.

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants respectfully request approval of the Substitute Formal Drawings filed on January 4, 2002.

Claims 1 and 3 have been amended to more distinctly claim the subject invention based upon the Examiner's comments during the Examiner's Interview conducted on September 13, 2004. These changes do not introduce any new matter.

35 U.S.C. § 103(a) Rejections

The rejection of claims 1 and 6 under 35 U.S.C. § 103(a), as being unpatentable over Hebiguchi taken with Itoh, is respectfully traversed based on the following.

Claim 1 includes the requirement that a frame be divided into at least four fields and that the scanning order of these four fields be non-sequential at least once. The Office Action notes that Hebiguchi does not teach driving the fields in an order that is discontinued as least once. Thus, Itoh is relied upon for a teaching that fields are scanned in an order that is non-sequential at least once. The Office Action references column 8, lines 10-13 of Itoh as teaching a non-sequential scanning order. Upon further review, column 8, lines 10-13 disclose a preferred scanning rate such that flicker is not observed and therefore the picture quality is not degraded. As this scanning rate is unrelated to a non-sequential scanning order, this aspect of claim 1 is not disclosed in Itoh. The Office Action also references column 10, lines 16-24 as teaching a non-sequential scanning order. This section relates to a method of scanning in which the holding characteristics for both positive and negative write operations are more uniform. As this positive and negative write operation is unrelated to a non-sequential scanning order, this aspect is not disclosed by Itoh. In fact, Itoh discloses a sequential scanning order at column 9, lines 22-23 by stating "the selected scanning lines are sequentially selected..." Therefore, the combination of Hebiguchi and Itoh does not disclose or suggest at least one limitation of claim 1 and cannot render the invention of claim 1 obvious.

Claim 6 depends from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi and Itoh, claim 6 is nonobvious for at least the same reasons. Objected to claim 5 similarly depends from nonobvious claim 1 and is considered nonobvious for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claims 1 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh, be reconsidered

and withdrawn. Similarly, it is respectfully requested that the objection to claim 5 as being dependent upon a rejected base claim, be reconsidered and withdrawn.

The rejection of claim 2 under 35 U.S.C. § 103(a), as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Ozawa, is respectfully traversed based on the following.

Claim 2 depends from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi and Itoh, claim 2 is nonobvious over the combination of Hebiguchi and Itoh for at least the same reasons. The addition of Ozawa to the combination fails to overcome this nonobviousness. Ozawa discloses the use of sequential field scanning as illustrated in FIG. 4 in which COM(i), COM(i+1), and COM(i+2) are shown to be scanned in a sequential order. Similarly, FIG. 33 of Ozawa, which shows the scanning order for four lines, shows the four lines to be scanned in sequential order. As a non-sequential scanning order is found as a limitation of claim 1, the combination of Hebiguchi, Itoh, and Ozawa cannot render obvious the invention of claim 1.

Claim 2 depends from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi, Itoh, and Ozawa, claim 2 is nonobvious for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Ozawa, be reconsidered and withdrawn.

The rejection of claim 3 under 35 U.S.C. § 103(a), as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Tsuji, is respectfully traversed based on the following.

Claim 3 depends from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi and Itoh, claim 3 is nonobvious over the combination of Hebiguchi and Itoh for at least the same reasons. The addition of Tsuji to the combination fails to overcome this

nonobviousness. Tsuji discloses the use of interlaced or non-interlaced scanning, in conjunction with field skipping depending upon the operational mode, *see* column 4, lines 58-68. However, FIGs. 5A and 5B show only two fields, not the at least four fields as found in a limitation of claim 1. Furthermore, with only two fields, it is not possible to scan two fields in a non-sequential order. Column 4, lines 58-68 disclose that the scanning order would be either 1-1-1-1 when one-field skipping takes place or 1-2-1-2 when one-field skipping does not take place. Neither of these corresponds to four fields that are non-sequentially scanned. As a non-sequential scanning order is found as a limitation of claim 1, the combination of Hebiguchi, Itoh, and Tsuji cannot render obvious the invention of claim 1.

Claim 3 depends from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi, Itoh, and Tsuji, claim 3 is nonobvious for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Tsuji, be reconsidered and withdrawn.

The rejection of claim 4 under 35 U.S.C. § 103(a), as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Shiba, is respectfully traversed based on the following.

Claim 4 depends from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi and Itoh, claim 4 is nonobvious over the combination of Hebiguchi and Itoh for at least the same reasons. The addition of Shiba to the combination fails to overcome this nonobviousness. Shiba, at column 2, lines 35-45 discloses a traditional interlace scanning method in which the odd-numbered lines are scanned and then the even-numbered lines. Thus, Shiba does not disclose a non-sequential scanning order for the at least four fields that comprise a single frame. As a non-sequential scanning order is found as a limitation of claim 1, the combination of Hebiguchi, Itoh, and Shiba cannot render obvious the invention of claim 1.

Claim 4 depends from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi, Itoh, and Shiba, claim 4 is nonobvious for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Shiba, be reconsidered and withdrawn.

The rejection of claims 7 and 8 under 35 U.S.C. § 103(a), as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Nagai, is respectfully traversed based on the following.

Claims 7 and 8 depend from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi and Itoh, claims 7 and 8 are nonobvious over the combination of Hebiguchi and Itoh for at least the same reasons. The addition of Nagai to the combination fails to overcome this nonobviousness. Nagai discloses a novel amino acid derivative having liquid crystal properties. As Nagai relates to liquid crystal material, and not to a non-sequential scanning order, a limitation of claim 1, the combination of Hebiguchi, Itoh, and Nagai cannot render obvious the invention of claim 1.

Claims 7 and 8 depend from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi, Itoh, and Nagai, claims 7 and 8 are nonobvious for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Nagai, be reconsidered and withdrawn.

The rejection of claim 9 under 35 U.S.C. § 103(a), as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Sandoe, is respectfully traversed based on the following.

Claim 9 depends from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi and Itoh, claim 9 is nonobvious over the combination of Hebiguchi and Itoh for at least the same reasons. The addition of Sandoe to the combination fails to overcome this nonobviousness. Sandoe discloses a series of different driving voltage waveforms and the use of a successive field scanning order, not a non-sequential scanning order, *see* column 8, lines 4 and 5. As a non-sequential scanning order is found as a limitation of claim 1, the combination of Hebiguchi, Itoh, and Sandoe cannot render obvious the invention of claim 1.

Claim 9 depends from claim 1. As claim 1 is nonobvious over the combination of Hebiguchi, Itoh, and Sandoe, claim 9 is nonobvious for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Sandoe, be reconsidered and withdrawn.

The rejection of claim 10 under 35 U.S.C. § 103(a), as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Kondoh, is respectfully traversed based on the following.

Claim 10 includes limitations regarding a driving process. In particular, claim 10 includes, in part:

wherein said driver drives scanning lines by means of a driving waveform having a field scanning period, said field scanning period comprising, in order, a reset period for resetting a state of liquid crystals, a selection period for selecting a final display state of the liquid crystals, and a maintaining period for establishing the state selected at the selection period, said driver configured to start scanning of a next field based on an end timing of a reset period of a previous field.

In other words, the scanning period includes, in order, reset, selection, and maintaining periods. Further, starting to scan one field is based upon the end of the reset period of the previous field.

Kondoh is relied upon for disclosing both the order of the periods and the timing between fields as the Office Action admits the combination of Hebiguchi and Itoh makes no such disclosure. It does appear that the cited column 12, lines 35-62 of Kondoh disclose the correct order of the periods. However, Kondoh does not disclose that starting to scan one field is based upon the end of the reset period of the previous field. This is evident in FIG. 15, which is being discussed at the cited column 12, lines 35-62. FIG. 15 shows four fields: a first on state field labeled Se, a second on state field labeled Sf, a first off state field labeled Se, and a second off state field labeled Sf. FIG. 15 shows that the start of one field begins only after completion of the previous field, and thus is not based upon the end of the reset period of the previous field. FIG. 8, which shows the scanning waveforms for two consecutive rows similarly fails to show the required timing. The selection period of waveform Y2 begins based upon the end of the selection period of waveform Y1, not based upon the end of the reset period of waveform Y1. Thus, Kondoh does not disclose or suggest the scanning timing found in a limitation of claim 1, and cannot, in combination with Hebiguchi and Itoh, render obvious the invention of claim 10.

Accordingly, it is respectfully requested that the rejection of claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Kondoh, be reconsidered and withdrawn.

The rejection of claims 11-13 under 35 U.S.C. § 103(a), as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Nagai, is respectfully traversed based on the following.

Claims 11-13 depend from claim 10. As claim 10 is nonobvious over the combination of Hebiguchi, Itoh, and Kondoh, claims 11-13 are nonobvious over the combination of Hebiguchi, Itoh, and Kondoh for at least the same reasons. The addition

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of Nagai to the combination fails to overcome this nonobviousness. Nagai discloses a novel amino acid derivative having liquid crystal properties. As Nagai relates to liquid crystal material, and not to scanning timing, a limitation of claim 10, the combination of Hebiguchi, Itoh, Kondoh, and Nagai cannot render obvious the invention of claim 10.

Claims 11-13 depend from claim 10. As claim 10 is nonobvious over the combination of Hebiguchi, Itoh, Kondoh, and Nagai, claims 11-13 are nonobvious for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claims 11-13 under 35 U.S.C. § 103(a) as being unpatentable over Hebiguchi taken with Itoh as applied to claim 1 hereinabove, and further in view of Nagai, be reconsidered and withdrawn.

CONCLUSION

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260.

Any fee required by this document other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

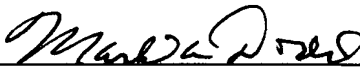
If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be

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construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

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